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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/662,216
Filing Date: September 12, 2003
Appellant(s): PAVCNIK ET AL.

Katie B. Goedertier
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 02/02/2010 appealing from the Office action mailed 08/04/2009.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

1, 3, 8-13, 16, 18, 20, 22-40, and 44

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The Drawings Objection and the 35 USC 112 rejection to claims 10, 14-17, 22-24, 34, 37, and 40.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6,712,834 B2	Yassour et al.	3-2004
6,342,063 B1	DeVries et al.	1-2002
2002/0116024 A1	Goldberg et al.	8-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

7. **Claims 1, 3, 8-17, 20, 22, 24-26, and 36** are rejected under 35 U.S.C. 102(e) as being anticipated by Yassour et al. (US 6,712,834 B2).

With regard to **claim 1**, Yassour et al. (hereinafter Yassour) discloses a retrievable filter (50) comprising a filter (52) and a stent (56) (Figure 2A). As shown in Figure 4B, the filter comprises a plurality of divergent legs and an apical hub, the distal end of the filter. Additionally, member (206) in Figure 8 overlaps the instantly claimed apical hub. Yassour further teaches wherein the stent and filter are removably attached through hooks (114) and narrowed portion (109) (column 7, line 66 through column 8, line 24). The hooks (114) on the filter engage the narrowed portion (109) on the stent to attach the two members (Figure 6D). Therefore, the hooks clearly overlap the instantly claimed first attachment member and the narrowed portion clearly overlaps the instantly claimed second attachment member. Although the narrowed portion is attached to the stent, it is still separate from the stent since it comprises a different region with a distinct diameter and a separate function.

With regard to **claim 3**, as shown in 4A, the stent is configured to engage a wall of a tubular vessel and become incorporated by endothelial tissue.

With regard to **claim 8**, the retrievable filter comprises an inherent retention force since it secured in a vessel and therefore able to withstand liquid moving axially in the vessel (Figure 4A). Additionally, the retrievable filter comprises a retrieval force since it is able to be removed from the vessel (column 8, lines 25-44).

With regard to **claims 9 and 10**, the filter is configured to maintain its structure when detached from the stent (column 8, lines 8-12).

With regard to **claims 11-15**, the filter is further configured to avoid contact with the vessel (Figure 6C).

With regard to **claims 16 and 17**, the first and second attachment members are configured to avoid contact with the vessel (Figure 6C).

With regard to **claim 20**, Yassour further discloses the stent as self-expanding (column 8, line 5).

With regard to **claim 22**, the first and second attachment means form an interference fit since they fit together to secure the filter and stent together (column 8, lines 21-23).

With regard to **claims 24-26**, the second attachment means (109) comprises an attachment wire that is an extension of the stent (Figure 6A). As shown in Figure 6A, the attachment wire comprises a bend.

With regard to **claim 36**, the retrievable filter is configured so that a user can decrease the force required to detach the filter from the stent (Figures 6E and 6F).

Claim Rejections – 35 USC § 103

10. **Claims 18, 27-35, 37-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yassour (US 6,712,834 B2).

With regard to **claim 18**, although Yassour does not specifically disclose the stent as square, it is the examiner's position that such a change in shape is obvious to one of ordinary skill in the art. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the shape of the Yassour stent because Applicant has not disclosed that a square stent provides an advantage, is used for a particular purpose or solves a stated problem. One

of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the cylindrical stent of Yassour because both retrievable filters are able to effectively trap emboli.

With regard to **claims 27-35 and 37-39**, Yassour does not specifically disclose the locking mechanism comprising a slot and ball, Y-shaped adaptor, coil, or a hook. However, links such as a slot and ball, Y-shaped adaptor, coils, and hooks are well known to one of ordinary skill in the art. The instant disclosure describes this parameter as merely preferable and does not describe it as contributing any unexpected result to the filter. As such this parameter is deemed a matter of design choice (lacking in any criticality) and well within the skill of the ordinary artisan, obtained through routine experimentation in determining optimum results. Therefore, it would have been obvious to one of ordinary skill in the art for Yassour to utilize a locking mechanism comprising a slot and ball, a Y-shaped adaptor, coil, or a hook where a user can alter the force absent evidence to the contrary.

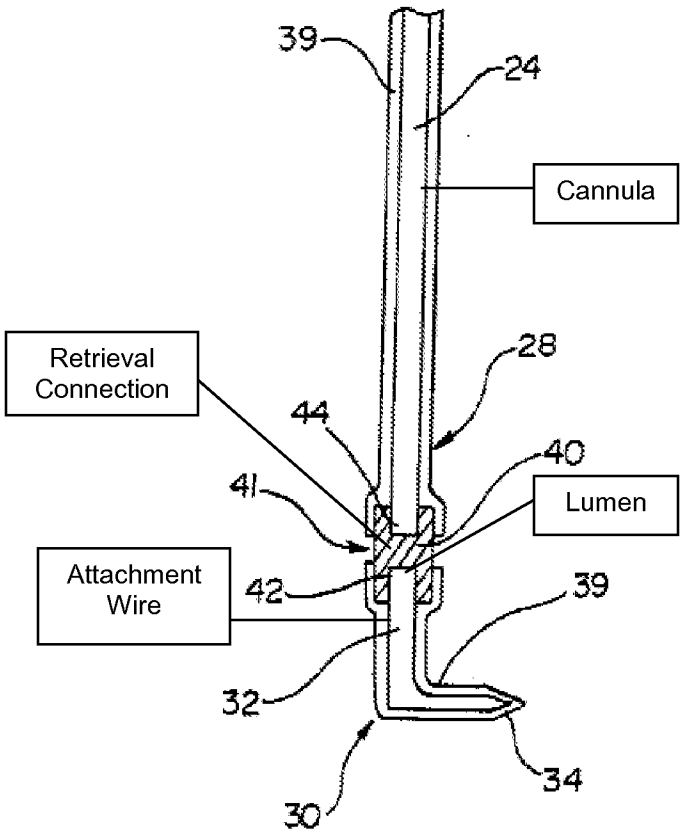
11. **Claims 23 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yassour (US 6,712,834 B2) in view of DeVries et al. (US 6,342,063 B1).

Yassour discloses a filter attached to a stent through a first and second attachment means but fails to disclose one of the attachment means as a extending through a lumen in the filter legs.

DeVries et al. (hereinafter DeVries) discloses a retrievable filter comprising a first end connected to a second end through an attachment member that advantageously

secures the two ends while allowing the two ends to become separated (Figure 3). As shown in Figure 3 and below, each filter leg (24) comprises a cannula (24) having a distal lumen. Attachment wire (32) is disposed within the filter lumen and is attached at a retrieval connection point (41). Since DeVries teaches an advantageous attachment mechanism that is well known in the art, it would have been obvious at the time of the invention to one of ordinary skill in the art for the retrievable filter of Yassour to utilize the same attachment means.

If Applicant were to argue that member (32) of Devries is not an attachment wire, it is the examiner's position that member (32) is a slender filament and therefore overlaps a wire.



12. **Claim 44** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yassour (US 6,712,834 B2) in view of Goldberg et al. (US 2002/0116024 A1).

Yassour discloses a stent connected to a filter but fails to disclose the stent as comprising a plurality of sides interconnected with a series of bends wherein each bend includes a coil.

Goldberg et al. (hereinafter Goldberg) also discloses a stent connected to a filter (Figure 1). As shown in Figure 5, the stent comprises a series of bends (134) wherein each bend has a coil. This stent advantageously provides adequate patency and protection from blood clots ([0016]). Therefore, since Goldberg discloses an advantageous stent formation that is well known in the art, it would have been obvious at the time of the invention for the stent of Yassour to also comprise bends with coils.

(10) Response to Argument

Specifically, applicant argues (A) that Yassour does not disclose a filter having a plurality of divergent legs (page 7).

With respect to argument (A), divergent is defined as to move in different directions or to differ from another. Yassour discloses a filter unit comprised of many divergent wires to form a mesh-like filtering material (column 7, lines 12-18). Figure 2B shows the wires connected at the distal end of the filter (52) and Figures 15A-15D show an enlarged view of the Yassour filtering mesh material (column 11, lines 4-16). These Figures therefore show many wires that diverge out from this distal end since the wires move in various directions and angles from a central point. Applicant argues that the

wires must separate and not interweave in order to be divergent (page 8). However, the wires may interweave while still moving in different directions and therefore diverge.

Additionally, the wires also diverge since each wire differs from the others by moving in its own direction and trajectory. No two wires follow the same path so that the wires diverge from one another. Although the wires may overlap or move back toward one another, they still must diverge at least in part in order to form the diamond shapes found in Figures 15A and 15B.

Specifically, applicant argues (B) that Yassour does not disclose a first attachment member separate from but attached to the filter and a second attachment member separate from the attached to the stent (page 8).

With respect to argument (B), as discussed above, the stent and filter of Yassour are attached through hooks (114) and narrowed portion (109). Therefore, the hooks overlap the claimed first attachment member and the narrowed portion overlaps the claimed second attachment member. Applicant argues that neither the hooks nor the narrowed portion are separate from either the filter or stent since both are an integral part of the filter or stent. Applicant further defines "separate" as "to become divided or detached" (page 9).

"Separate" can also refer to divide, disconnect, or dissociate. The hooks and narrowed portion of Yassour are divided and disconnected from the filter and stent since each forms a separate function with a separate structure. Specifically, the hooks are not used to filter material but to attach to the stent. The narrowed portion is narrower

than the stent since it is not used to hold a vessel but instead to connect to the filter. Therefore, the hooks and narrowed portion are not part of the stent and filter, even though they are attached to them, since each is a separate element and therefore separate from the filter and stent.

Specifically, applicant argues (C) that Yassour does not disclose that the stem of DeVries fits within the bore of link (40) and therefore does not extend through at least one lumen of the plurality of divergent legs (page 11).

With respect to argument (C), the filter leg of DeVries comprises the strut (24) and link (40). Since link (40) comprises a bore/lumen, the filter leg then also comprises this bore/lumen.

Specifically, applicant argues (D) that there is no teaching in DeVries of applying an upward motion to the alleged retrieval connection member to disengage the alleged attachment wire from a second attachment member (page 11).

With respect to argument (D), DeVries teaches the hook (32) as being releasably attached to the link (38, 40) (column 5, lines 1-5). The connection between the link and filter strut is stronger than between the link and hook so that an upward motion applied to the link would cause the link and hook to disengage. Since the link of DeVries overlaps the claimed retrieval connection, an upward motion to the retrieval connection would also cause the hook to disengage from the link. This would also cause the hook to disengage from the narrowed portion of the Yassour stent since the hook would not

be steadied upon the stent. It is the Examiner's position that such is inherent to the Yassour and DeVries combination.

Specifically, applicant argues (E) that there is no reason to provide a lumen with an attachment wire disposed within of the Yassour filter since the wires are so fine and woven (page 11).

With respect to argument (E), both the hooks of Yassour and anchor (30) of DeVries form attachment structures (noting that the hooks attach to a stent and the anchors attach to a vessel). Therefore, both are used to anchor and secure the filter within the body. As shown in Figure 3 of Yassour, the link is placed around and outside the filter strut (24). Therefore, it is the Examiner's position that even though Yassour discloses struts smaller in diameter, a link could still be placed around these struts. Additionally, since DeVries also discloses an attachment mechanism that effectively anchors a filter, it would have been obvious for the struts of Yassour to use this same technique to anchor the filter struts. This merely is the use of one known technique to improve similar devices in the same way.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

05/05/2010
/Amy T Lang/
Examiner, Art Unit 3731

Conferees:

/Anhtuan T. Nguyen/
Supervisory Patent Examiner, Art Unit 3731

/Michael Phillips/
RQAS